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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/625,900 | 07/24/2003 | Hwan-Guem Kim | 1293.1781 | 1198 |
| 21171 | 7590 | 05/23/2006 | [REDACTED] | EXAMINER |
| STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | BEATTY, ROBERT B | |
| | | | [REDACTED] | ART UNIT |
| | | | | PAPER NUMBER |
| | | | 2852 | |

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------------|-------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | Examiner Robert Beatty | Art Unit 2852 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 March 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) Claim(s) 7 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102
that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3,8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Samejima (JP# 07-140828).

Samejima teach a fusing device (see Fig. 2) comprising a fusing roller 2 having a outer protective Teflon layer 50, a metallic heat pipe 37 disposed in the center of the roller, a heating element 38' encased and adhered in a silicone rubber layer 38 disposed on the outer surface of the heat pipe, and a pressure roller 3 in pressure engagement with the fusing roller. The fusing roller and the pressure roller form a fusing nip of a predetermined width.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samejima (JP# 07-140828) in view of Hirst et al.

Samejima taught supra discloses most of what is claimed except the silicone rubber layer having a thickness between 1·3 mm, and the diameter of the fusing roller being between 35·50 mm. Hirst et al. teach a fusing device comprising a fusing roller 336 and a pressure roller 338 forming a nip with the fusing roller. A silicone rubber outer layer having a thickness of 2.5 mm is an outside layer of the fusing roller. The fusing roller has a diameter of 45 mm plus 2.5 mm for the silicone rubber layer (col.5, lines 24·39). It would have been obvious to one of ordinary skill in the art at the time the invention was made that the fusing roller in Samejima would have a diameter and layer thickness within applicant's claimed range because this diameter and thickness are known in the state of the art for the purpose of fusing the toner image without making the image forming apparatus too large.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Samejima (JP# 07·140828) in view of Moriyama (JP# 59·204071).

Samejima taught supra discloses most of what is claimed except the outer surface layer being adhesively attached to the heater with a heat resistant adhesive. Moriyama (JP) teach a fixing device having a heat roller 21 which comprises an aluminum core 22 heated by a heater inside the core, and a Teflon or silicone rubber outer layer 23 over the core. The outer layer is adhesively secured to the core with an adhesive coating therebetween. It would have been obvious to one

of ordinary skill in the art at the time the invention was made to use an adhesive layer to secure the outer layer to the inner core heater because the outer layer can be adequately adhered and will not readily come off the core during normal fixing operations. It is noted that the adhesive coating has some heat resistance (i.e. it is not a perfect thermal conductor).

4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

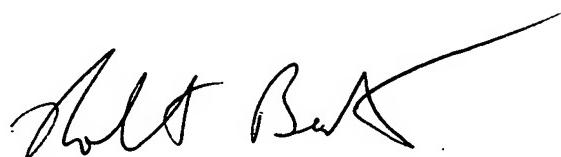
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cho et al. teach a fusing roller with a working fluid therein.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Beatty whose telephone number is (571) 272-2130. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Robert Beatty
Primary Examiner
Art Unit 2852

May 21, 2006